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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|---------------------|------------------|
| 10/688,795 | 10/17/2003 | Garth Copping | 3912.00002 | 9738 |
| 21615 | 7590 | 10/04/2006 | EXAMINER | |
| CHRISTOPHER P. MAIORANA, P.C. 24840 HARPER SUITE 100 ST. CLAIR SHORES, MI 48080 | | | JIANG, CHEN WEN | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 3744 | |
| DATE MAILED: 10/04/2006 | | | | |

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/688,795

Applicant(s)

COPPING, GARETH

Examiner

Chen-Wen Jiang

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 July 2006.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 10-32 and 34-56 is/are pending in the application.
- 4a) Of the above claim(s) 10-32, 34-36, 38-40 and 43-56 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 37, 41 and 42 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Response to Arguments

1. The amendments and arguments presented by the applicant have been duly noted. However, an update search and further review of the prior art of record has prompted the presentation of new rejections presented below. In view of such, the previous rejections in the first office action have been withdrawn.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claim 37 is rejected under 35 U.S.C. 102(b) as being anticipated by Ben-Zion (U.S. Patent Number 5,522,870).

Ben-Zion discloses a fast changing heating-cooling device and method. Referring to Figs.1 and 3, the device comprises valves 10,11, heat exchanger 2 and hot and cold gases 5,6. The fast change in temperature is periodic and may be selected by an operator.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 37,41 and 42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ritson et al. (U.S. Patent Number 3,913,581) in view of Ben-Zion (U.S. Patent Number 5,522,870).

Ritson et al. disclose a cryogenic apparatus. Referring to Figs.6-8, the apparatus comprises valves (V3,60,14),(V4,14,21),(V5A,V5B,14,39,40), valve controller, cooling mode, heating mode and flushing mode. The refrigerant in cooling mode and flushing mode are in opposite direction since the flushing mode using heating mode direction. When a three-position valve is used, the first conduit when a warming mode is selected, may be either closed, open to atmosphere and shut off from the source, or remain connected to the source. If open to atmosphere, reverse flow through the restricted orifice being only for such time that the valve is maintained in its second position. It is therefore within the scope of the invention to connect the first conduit to atmosphere by the three-position valve when in its second position particularly when delay means are incorporated which ensure such connection holds for only a brief period. Such momentary reversal of gas flow is advantageous in that contaminants may be flushed out of the first conduit. In the third position, the three-position valve connects at least the first conduit of the first and second conduits to the exhaust passage (claim 8). Ritson et al. disclose the invention substantially as claimed with button 35A to control cooling and heating modes. However, Ritson et al. do not disclose program-controlled cycles. Ben-Zion discloses program-controlled cycles in the same field of endeavor for the purpose of cycling the cooling and heating. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the apparatus of Ritson et al. with a program controlled cycles in view of Ben-Zion so as to automate the cooling and heating.

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6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chen-Wen Jiang whose telephone number is (571) 272-4809.

The examiner can normally be reached on Monday-Thursday from 8:00 to 6:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cheryl Tyler can be reached on (571) 272-4834. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Chen-Wen Jiang
Primary Examiner

A handwritten signature in black ink, consisting of a series of loops and a long horizontal stroke, positioned to the right of the name and title.